

**JOINT BIOLOGICAL EXPEDITION ON
RRS "JOHN BISCOE", FEBRUARY 1982 (II)
Data of micronecton and zooplankton hauls
by Uwe Piatkowski**

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Summary

In the following report the plankton haul data obtained during the "Joint Biological Expedition on RRS John Biscoe, February 1982" are summarized and described. The report will serve as an useful base for further evaluation of the rich plankton material that has been preserved.

Zusammenfassung

In dem vorliegenden Bericht sind die Stationsdaten der während der Deutsch-Britischen Antarktis-Expedition, Februar 1982 mit RRS "John Biscoe" durchgeführten Planktonfänge zusammengestellt und beschrieben. Der Bericht soll als Grundlage für die weitere Bearbeitung des umfangreichen Planktonmaterials dienen.

JOINT BIOLOGICAL EXPEDITION ON RRS JOHN BISCOE,
FEBRUARY 1982 (II)

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Introduction

The Antarctic-Expedition during February 1982 with the British research vessel RRS "John Biscoe" was determined by a German research programme that was planned and performed by scientists of the Alfred-Wegener-Institute for Polar Research in Bremerhaven, the Working Group on Polar Ecology* in Kiel and the British Antarctic Survey in Cambridge. The expedition was a contribution to the German-British cooperation in Antarctic research.

Cruise track, cruise report and preliminary scientific results are given by HEMPEL & HEYWOOD (1982). The present report gives a description of the plankton sampling stations, data on the nets used and comments on the stations.

The sorting of the plankton samples into different taxonomic groups had already been started during the cruise and is now finished. A publication of the results is in preparation.

At nearly all stations where net sampling was done, physical oceanographic data were collected with a CTD recorder (B. HEYWOOD).

When the vessel was steaming with constant speed a Simrad EK 120 echo sounder (120 KHz) with a Simrad QM MK II integrator were used to record the distribution of krill swarms between the stations of net sampling (I. EVERSON).

The net sampling was carried out by A. KELLERMANN, H.-P. MARSCHALL, U. PIATKOWSKI and S. SCHNACK in close cooperation with the scientists of BAS and the crew of RRS "John Biscoe".

Many thanks go to C. DIECKMANN and S. MARSCHALL for their kindly help in the completion of this report.

Types of nets used and haul procedures

The Vertical Net (NSN) described by NANSEN (1915) is a conical net with a circular mouth of 70 cm in diameter. The mesh size of the filtering cone was 200 µm during all hauls. When the vessel was stopped the net was lowered down vertically to the lowest haul depth with a veering speed of 0.4-0.5 m/sec. The net was then hauled to its highest

* now "Institute of Polar Ecology"

haul depth with a heaving speed of 0.3 m/sec. After closing the net there with a messenger weight it was drawn out from the water. Additional weights were fixed underneath the net to ensure that it remained vertical during hauling and veering. The filtered water volume could therefore be calculated by the difference of highest and lowest haul depth and the net diameter.

The RMT 1+8m (RMT = "Rectangular Midwater Trawl"). Detailed descriptions of this net system are given by BAKER et al. (1973) and ROE et al. (1980). The RMT 1+8m is a multiple opening and closing net system. It consists of two types of nets: the RMT 1 with a mouth area of approximately 1 m² and a mesh size of 320 µm and the RMT 8 with a mouth area of approximately 8 m² and a mesh size of 4.5 mm. During this cruise the multiple RMT 1+8 (RMT 1+8m) was used. The rig consisted of three RMT 1 nets and three RMT 8 nets. The advantage of the RMT 1+8m is the possibility to sample zooplankton of three different layers with two different mesh sizes during only one haul. This net has been accepted as a standard net for quantitative sampling of zooplankton (POMMERANZ et al., 1982).

The standard RMT 1+8m haul was an oblique haul with haul depths of 200-140 m, 140 m - thermocline region (around 60 m), thermocline region - below surface (~5 m). The closed nets were veered down and then opened during the heaving time. Turbulences of water masses caused by the propeller can badly damage plankton samples of the upper water layers. Because the nets had to be put into water with a gallows over the stern this effect had to be avoided. Therefore the last net pair was closed below the surface in 5-10 m of water depth. The heaving speed of the nets was 0.1-0.3 m/sec. Vessel's speed during heaving and towing was 1.5-3.0 kn.

Calculations of the RMT's filtered water volumes were worked out with a computer programme basing on data and curves ROE et al. (1980) published.

The station list in this report shows all the stations where plankton samples were collected and preserved. Additionally a number of very short hauls were performed for gaining undamaged and living specimens for laboratory experiments. The following nets were used for this purpose: a ring trawl with a circular mouth of 120 cm in diameter and a mesh size of 1000 µm. The net was towed horizontally below the surface with a vessel's speed of ~3 knots, a frame net with a rectangular mouth opening area of 1 m² and a mesh size of 1000 µm. This net was towed in the same manner as the ring trawl. Hauls with the two last mentioned nets are not listed.

Treatment of catch

Immediately after the catch was brought on deck it was measured as accurately as possible (displacement volume). Large animals such as fish and medusae were then sorted from the catch. If the catch was bigger than 2000 ml a suitable subsample was taken. The samples were fixed in 4% chalk-buffered formaldehyde solution. The acid value (pH-value) of the samples was controlled several times on board and if necessary the sample was buffered to pH 7.

The sorting of the samples into taxonomic groups was started on board and continued immediately when the samples arrived in Bremerhaven.

Station charts

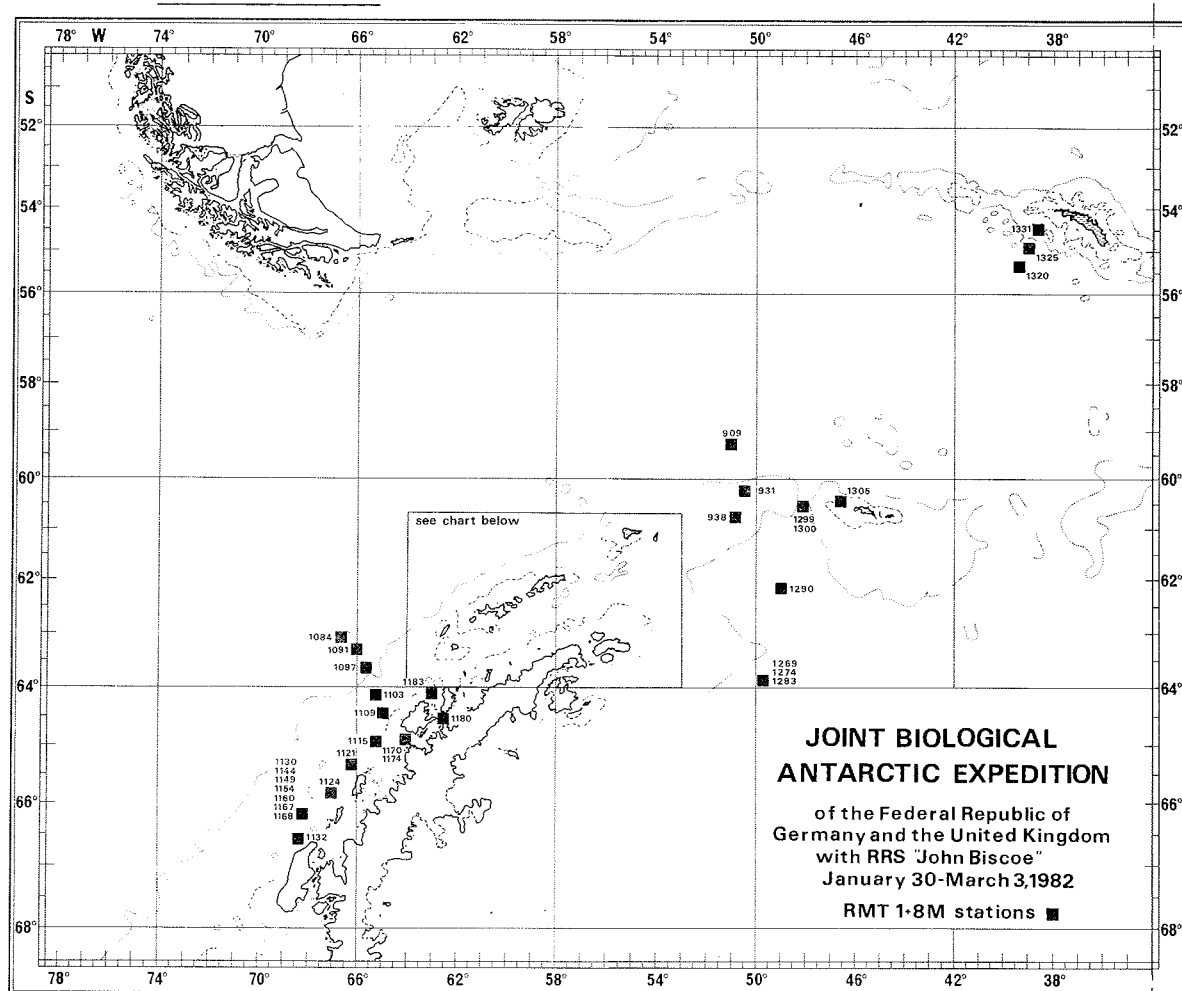
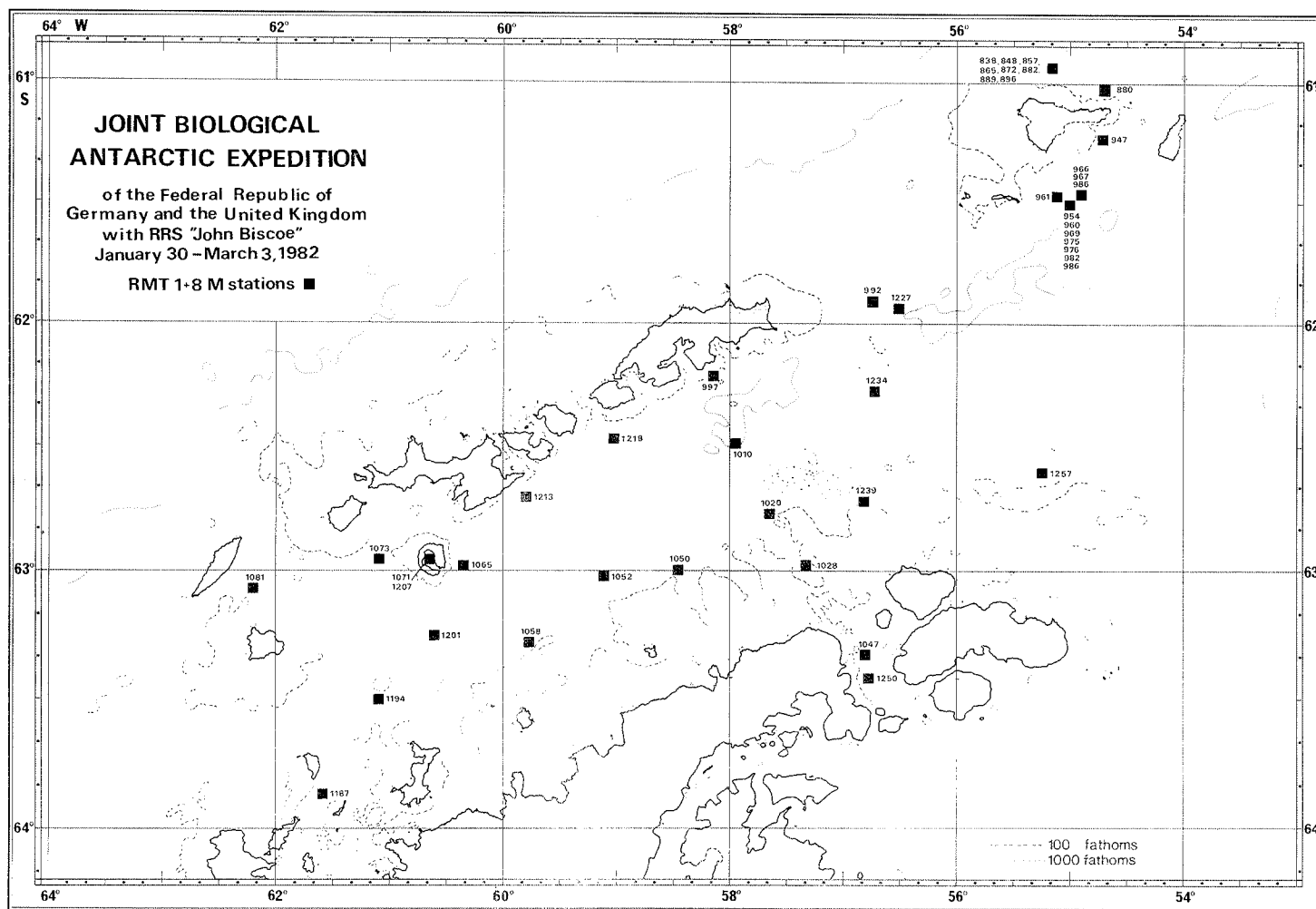


Fig. 1 RMT 1+8m stations of whole investigated area.

Fig. 2 RMT 1+8m stations in Bransfield Strait and adjacent waters.



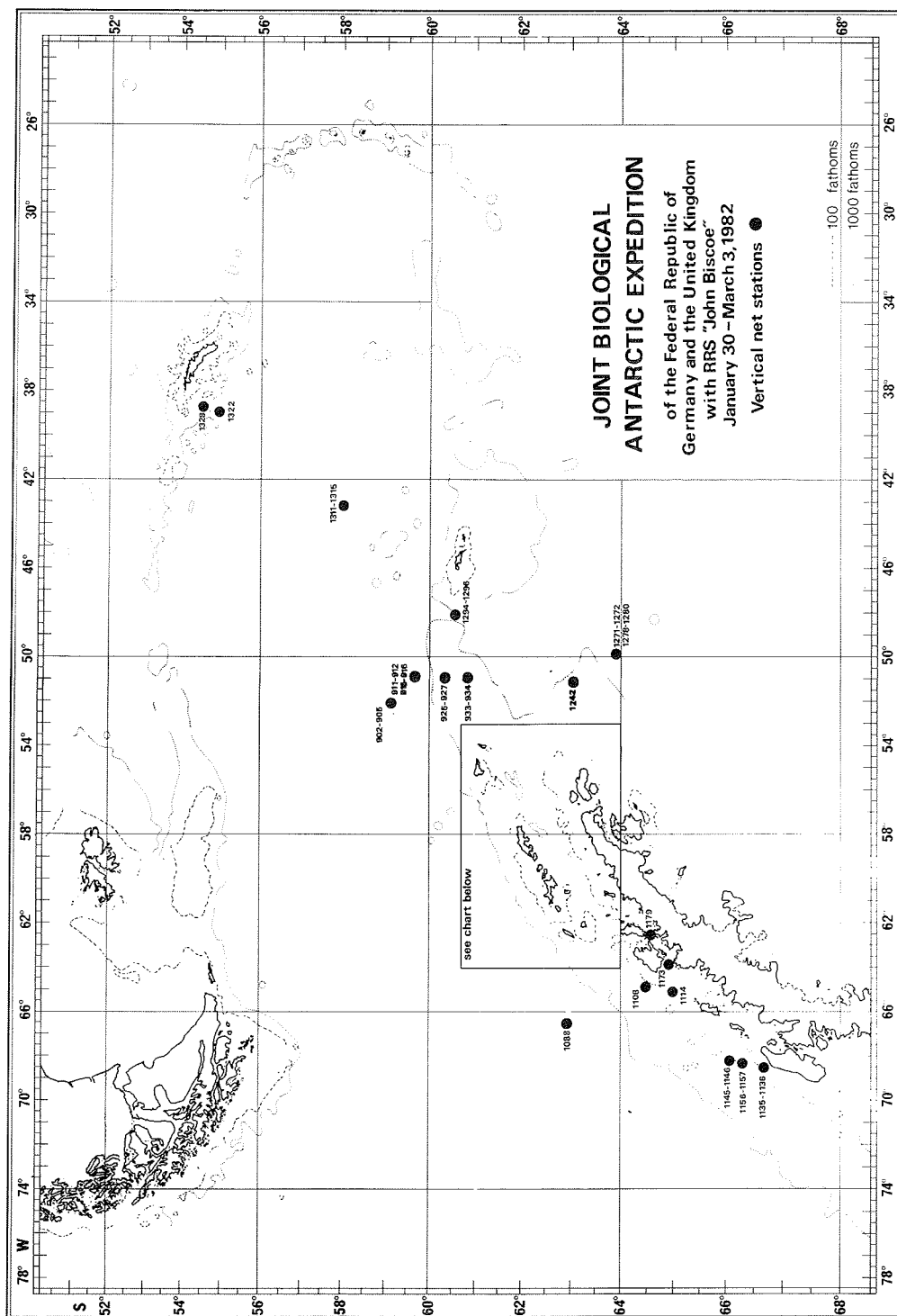
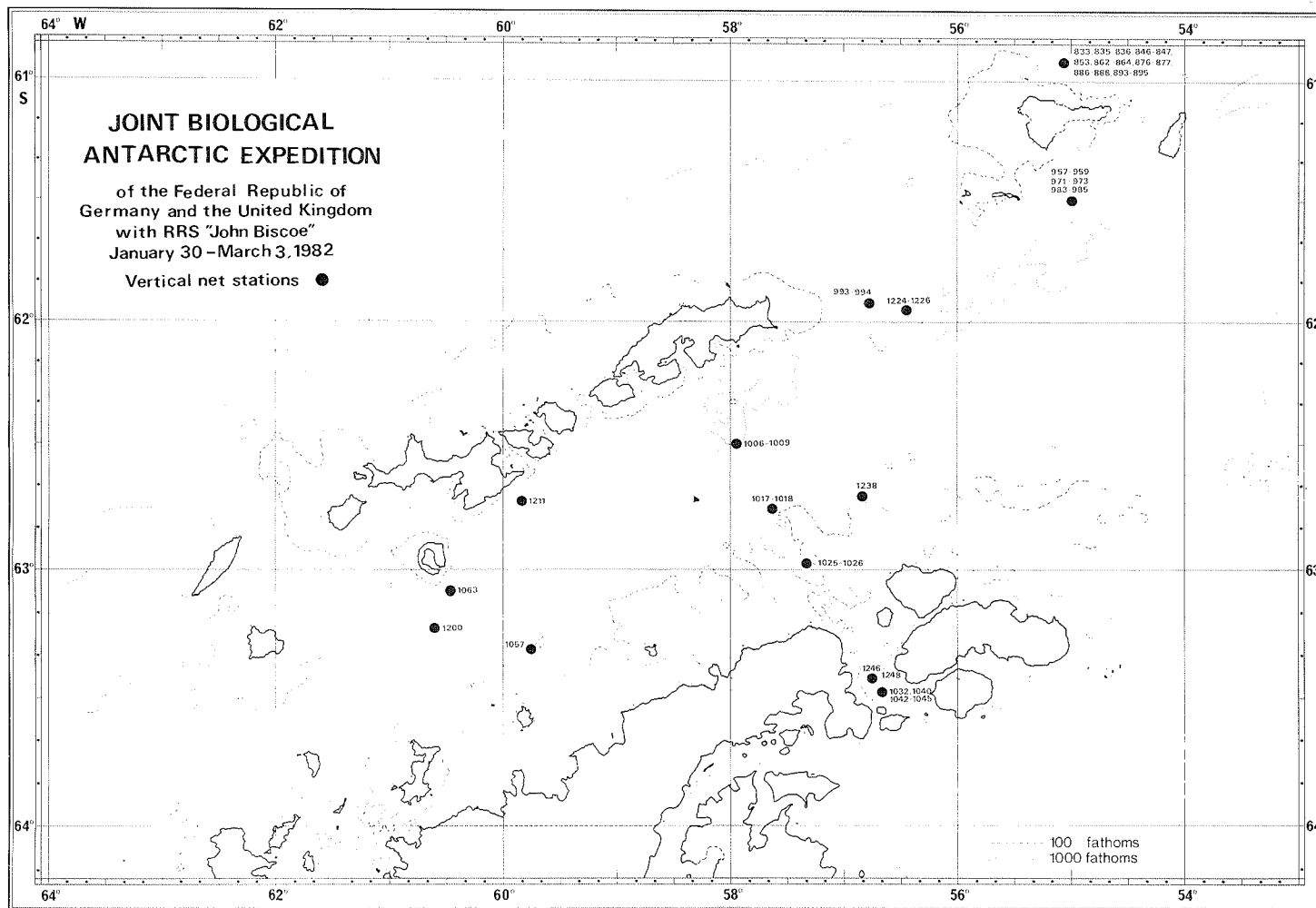


Fig. 3 Vertical net stations of whole investigated area.

Fig. 4 Vertical net stations in Bransfield Strait and adjacent waters.



Notes on station list

The following abbreviations are used:

NSN : vertical net (= "Nansen-Schließ-Netz")

RMT 1-1 : deepest and first opened RMT 1

RMT 1-2 : middle and second opened RMT 1

RMT 1-3 : uppermost and last opened RMT 1

RMT 8-1 : deepest and first opened RMT 8

RMT 8-2 : middle and second opened RMT 8

RMT 8-3 : uppermost and last opened RMT 8

Haul start : GMT-time when net was opened

Haul duration: space of time that net was filtering

Haul depth : depth range where net was opened

Catch volume : on board measured displacement volume
of the total catch

DA : dawn, 8 - 12 GMT (twilight)

D : day, 12 - 22 GMT (daylight)

DU : dusk, 22 - 2 GMT (twilight)

N : night, 2 - 8 GMT (darkness)

STD : + station at which a CTD-haul was performed

Comment : + additional notes are made to the station

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
833 1	01.02.	60°51.3'S 55°05.9'W	1900	NSN	22:54	48	1900-1000	346	not meas.	DU	+	-
835 2	02.02.	60°52.2'S 55°08.1'W	1900	NSN	00:56	40	1000- 200	308	not meas.	DU	+	-
836 3	02.02.	60°52.2'S 55°08.1'W	1900	NSN	01:48	10	200- 0	77	not meas.	N	+	-
838 1	02.02.	60°51.4'S 55°10.7'W	2110	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:46 04:01 04:16 03:46 04:01 04:16	15 15 15 15 15 15	200- 140 140- 70 70- 15 200- 140 140- 70 70- 15	692 676 689 9232 8553 7391	80 200 450 600 400 3500	N	+	-
846 4	02.02.	60°52.2'S 55°10.6'W	1730	NSN	08:40	24	500- 0	192	not meas.	DA	+	-
847 5	02.02.	60°52.4'S 55°10.7'W	1713	NSN	09:35	23	1000- 500	192	not meas.	DA	+	-
848 2	02.02.	60°52.1'S 55°05.4'W	1360	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	10:59 11:14 11:29 10:59 11:14 11:29	15 15 15 15 15 15	200- 160 160- 125 125- 10 200- 160 160- 125 125- 10	675 678 672 10383 8664 7194	25 15 100 250 120 3500	DA	+	+
853 6	02.02.	60°52.1'S 55°05.8'W	2016	NSN	15:30	32	2000-1000	385	not meas.	D	+	-

Station list

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
857 3	02.02.	60°51.5'S 55°09.7'W	2140	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	18:28 18:43 18:58 18:28 18:43 18:58	15 15 15 15 15 15	255- 135 135- 70 70- 20 255- 135 135- 70 70- 20	692 678 690 9476 8611 7406	50 100 20 500 1800 150	D	+	+
862 7	02.02.	60°51.7'S 55°09.0'W	2050	NSN	22:26	56	2019-1000	392	not meas.	DU	+	-
863 8	03.02.	60°51.1'S 55°07.8'W	1970	NSN	01:00	25	1000- 500	192	not meas.	DU	+	-
864 9	03.02.	60°51.3'S 55°07.5'W	1952	NSN	01:55	15	500- 200	115	not meas.	DU	+	-
865 4	03.02.	60°51.2'S 55°09.0'W	2410	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:35 02:50 03:05 02:35 02:50 03:05	15 15 15 15 15 15	200- 140 140- 60 60- 10 200- 140 140- 60 60- 10	682 672 694 8390 8473 7443	55 120 300 4500 1700 20000	N	+	+
872 5	03.02.	60°51.0'S 55°09.0'W	1867	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	08:52 09:07 09:22 08:52 09:07 09:22	15 15 16 15 15 16	200- 145 145- 70 70- 15 200- 145 145- 70 70- 15	690 663 728 8916 8292 7738	40 40 15 300 240 45	DA	+	-
876 10	03.02.	60°52.0'S 55°08.0'W	2040	NSN	12:30	60	2000-1000	385	not meas.	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
877 11	03.02.	60°52.0'S 55°08.0'W	1990	NSN	14.30	30	1000- 500	192	not meas.	D	+	-
880 6	03.02.	61°02.5'S 54°42.4'W	535	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	18:06 18:21 18:36 18:06 18:21 18:36	15 15 15 15 15 15	200- 140 140- 70 70- 5 200- 140 140- 70 70- 5	692 679 686 9381 8652 7363	40 40 15 180 250 170	D	+	-
882 7	03.02.	60°54.6'S 55°15.0'W	1079	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	21:30 21:45 22:00 21:30 21:45 22:00	15 15 15 15 15 15	200- 140 140- 70 70- 10 200- 140 140- 70 70- 10	688 679 690 8691 8647 7406	15 15 20 100 300 4500	D	+	-
886 12	04.02.	60°52.0'S 55°05.8'W	2030	NSN	02:05	49	2000-1000	385	not meas.	N	+	-
887 13	04.02.	60°51.4'S 55°07.5'W	2020	NSN	04:00	25	1000- 500	192	not meas.	N	+	-
888 14	04.02.	60°51.3'S 55°07.4'W	2020	NSN	04:44	18	500- 0	192	not meas.	N	+	-
889 8	04.02.	60°51.3'S 55°07.5'W	2160	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	05:27 05:42 05:57 05:27 05:42 05:57	15 15 15 15 15 15	200- 100 100- 85 85- 20 200- 100 100- 85 85- 20	688 676 694 8691 8553 7431	50 150 550 750 600 35000	N	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
893 15	04.02.	60°50.4'S 55°09.8'W	2400	NSN	09:15	30	500- 0	192	not meas.	DA	+	-
894 16	04.02.	60°49.4'S 55°11.4'W	2400	NSN	10:20	25	1000- 500	192	not meas.	DA	+	-
895 17	04.02.	60°49.2'S 55°11.4'W	2427	NSN	12:20	95	2350-1000	519	not meas.	D	+	-
896 9	04.02.	60°50.0'S 55°11.2'W	2330	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	14:00 14:15 14:30 14:00 14:15 14:30	15 15 15 15 15 15	200- 140 140- 65 65- 15 200- 140 140- 65 65- 15	692 677 642 9476 8663 6833	25 35 55 360 650 1500	D	+	+
902 18	05.02.	59°15.3'S 59°59.8'W	2890	NSN	06:40	68	2000-1000	385	not meas.	N	+	-
903 19	05.02.	59°15.3'S 59°59.8'W	2800	NSN	08:36	34	1000- 500	192	not meas.	DA	+	-
904 20	05.02.	59°15.6'S 51°00.5'W	2800	NSN	09:55	15	500- 200	115	not meas.	DA	+	-
905 21	05.02.	59°15.4'S 51°00.4'W	2800	NSN	10:35	10	200- 0	77	not meas.	DA	+	-
909 10	05.02.	59°15.1'S 51°02.1'W	2905	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	13:35 13:50 14:06 13:35 13:50 14:06	15 16 15 15 16 15	195- 110 110- 55 55- 10 195- 110 110- 55 55- 10	678 724 637 10285 9242 6832	100 15 35 150 150 75	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
911 22	05.02.	59°44.7'S 50°59.3'W	2750	NSN	18:22	8	200- 0	77	not meas.	D	+	-
912 23	05.02.	59°44.5'S 50°58.7'W	2750	NSN	19:00	20	500- 200	115	not meas.	D	+	-
915 24	05.02.	59°44.0'S 50°58.0'W	2750	NSN	19:45	25	1000- 500	192	not meas.	D	+	-
916 25	05.02.	59°44.1'S 50°59.6'W	2850	NSN	22:00	66	2000-1000	385	not meas.	DU	+	-
925 26	06.02.	60°15.1'S 50°59.9'W	1500	NSN	06:28	10	200- 0	77	not meas.	N	+	-
926 27	06.02.	60°14.8'S 50°59.7'W	1500	NSN	07:05	20	500- 200	115	not meas.	N	+	-
927 28	06.02.	60°14.8'S 50°59.7'W	1470	NSN	08:30	45	1455- 500	367	not meas.	DA	+	-
931 11	06.02.	60°14.2'S 50°29.0'W	1310	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	11:29 11:44 11:59 11:29 11:44 11:59	15 15 15 15 15 15	200- 95 95- 60 60- 10 200- 95 95- 60 60- 10	692 658 693 9077 8207 7412	35 80 75 400 1050 700	DA	+	+
933 29	06.02.	60°45.7'S 50°58.9'W	2600	NSN	16:30	15	200- 0	77	not meas.	D	+	-
934 30	06.02.	60°45.7'S 50°58.8'W	2600	NSN	17:30	85	2000- 200	692	not meas.	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
938 12	06.02.	60°47.1'S 50°55.8'W	2600	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	21:50 22:05 22:20 21:50 22:05 22:20	15 15 15 15 15 15	200-125 125-70 70-5 200-125 125-70 70-5	687 678 678 9915 8611 7267	15 15 140 220 300 1500	D	+	+
947 13	07.02.	61°14.2'S 54°45.5'W	247	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	12:25 12:40 12:55 12:25 12:40 12:55	15 15 15 15 15 15	205-150 150-65 65-10 205-150 150-65 65-10	691 679 685 9615 8659 7342	60 45 10 550 200 30	D	+	+
954 14	07.02.	61°30.9'S 54°58.1'W	880	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	15:52 16:07 16:22 15:52 16:07 16:22	15 15 15 15 15 15	205-140 140-90 90-20 205-140 140-90 90-20	677 663 676 8148 8292 7239	20 20 10 110 80 130	D	+	+
957 31	07.02.	61°30.0'S 55°00.0'W	680	NSN	18:23	7	670-500	65	not meas.	D	+	-
958 32	07.02.	61°30.0'S 55°00.0'W	680	NSN	19:05	15	500-200	115	not meas.	D	+	-
959 33	07.02.	61°30.0'S 55°00.0'W	680	NSN	19:35	10	200-0	77	not meas.	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
960 15	07.02.	61°30.3'S 54°58.5'W	951	RMT1-1	20:13	15	195- 110	692	120	D	+	-
				RMT1-2	20:28	15	110- 65	647	15			
				RMT1-3	20:43	15	65- 10	690	25			
				RMT8-1	20:13	15	195- 110	9332	16000			
				RMT8-2	20:28	15	110- 65	8006	200			
				RMT8-3	20:43	15	65- 10	7406	180			
961 16	07.02.	61°28.3'S 55°03.4'W	1111	RMT1-1	22:10	30	750- 500	1377	100	DU	+	-
				RMT1-2	22:40	30	500- 250	1251	250			
				RMT1-3	23:10	30	250- 200	1362	150			
				RMT8-1	22:10	30	750- 500	17497	850			
				RMT8-2	22:40	30	500- 250	15301	750			
				RMT8-3	23:10	30	250- 200	14461	450			
966 17	08.02.	61°28.5'S 54°56.7'W	1005	RMT1-1	02:27	15	200- 145	692	-	N	+	+
				RMT1-2	02:42	15	145- 105	678	15			
				RMT1-3	02:57	15	105- 5	669	50			
				RMT8-1	02:27	15	200- 145	9476	600			
				RMT8-2	02:42	15	145- 105	8611	650			
				RMT8-3	02:57	15	105- 5	7162	700			
967 18	08.02.	61°28.5'S 54°56.7'W	990	RMT1-1	04:22	33	700- 480	1516	120	N	+	-
				RMT1-2	04:55	33	480- 300	1492	120			
				RMT1-3	05:28	27	300- 200	1212	120			
				RMT8-1	04:22	33	700- 480	19348	750			
				RMT8-2	04:55	33	480- 300	19063	500			
				RMT8-3	05:28	27	300- 200	12985	150			
969 19	08.02.	61°30.7'S 55°00.3'W	691	RMT1-1	07:40	15	200- 140	692	65	N	+	+
				RMT1-2	07:55	15	140- 60	678	65			
				RMT1-3	08:10	15	60- 10	686	30			
				RMT8-1	07:40	15	200- 140	9232	400			
				RMT8-2	07:55	15	140- 60	8611	100			
				RMT8-3	08:10	15	60- 10	7363	175			

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
971 34	08.02.	61°30.5'S 54°59.4'W	630	NSN	11:50	10	620- 500	46	not meas.	DA	+	-
972 35	08.02.	61°30.4'S 54°59.3'W	620	NSN	12:20	16	500- 200	115	not meas.	D	+	-
973 36	08.02.	61°30.4'S 54°59.3'W	630	NSN	12:55	10	200- 0	77	not meas.	D	+	-
975 20	08.02.	61°29.6'S 54°57.9'W	635	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	13:55 14:10 14:25 13:55 14:10 14:25	15 15 15 15 15 15	205- 135 135- 100 100- 5 205- 135 135- 100 100- 5	689 675 683 9832 8539 7319	15 < 5 10 25 15 90	D	+	-
976 21	08.02.	61°30.0'S 54°59.6'W	920	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	15:55 16:20 16:50 15:55 16:20 16:50	25 30 30 25 30 30	710- 535 535- 290 290- 225 710- 535 535- 290 290- 225	1237 1391 1325 14346 17553 14208	75 not meas. 500 400 200	D	+	-
982 23	08.02.	61°30.2'S 54°57.1'W	708	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	20:15 20:30 20:45 20:15 20:30 20:45	15 15 15 15 15 15	185- 140 140- 60 60- 10 185- 140 140- 60 60- 10	644 674 679 10944 8639 7273	70 30 < 5 65 50 35	D	+	+
983 37	08.02.	61°29.9'S 54°59.5'W	730	NSN	23:00	15	720- 500	85	not meas.	DU	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
984 38	09.02.	61°29.5'S 54°59.5'W	730	NSN	00:05	15	500- 200	115	not meas.	DU	+	-
985 39	09.02.	61°29.5'S 54°59.5'W	730	NSN	00:37	9	200- 0	77	not meas.	DU	+	-
986 24	09.02.	61°28.7'S 54°57.9'W	634	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	01:25 01:40 01:55 01:25 01:40 01:55	15 15 15 15 15 15	215- 140 140- 75 75- 5 215- 140 140- 75 75- 5	661 662 651 10690 8501 6948	130 80 230 600 600 1200	DU	+	+
992 25	09.02.	61°56.2'S 56°47.5'W	486	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	09:05 09:20 09:35 09:05 09:20 09:35	15 15 16 15 15 16	200- 135 135- 60 60- 10 200- 135 135- 60 60- 10	681 633 693 8310 7768 7436	30 20 10 200 90 70	DA	+	-
993 40	09.02.	61°56.5'S 56°47.3'W	462	NSN	10:50	13	450- 200	96	not meas.	DA	+	-
994 41	09.02.	61°56.0'S 56°47.0'W	462	NSN	11:30	10	200- 0	77	not meas.	D	+	-
997 26	09.02.	62°13.9'S 58°07.5'W	1050	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	16:49 17:04 17:19 16:49 17:04 17:19	15 15 15 15 15 15	200- 142 142- 80 80- 20 200- 142 142- 80 80- 20	683 678 651 10124 8664 6948	50 40 45 150 250 220	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1006 42	10.02.	62°30.1'S 57°57.4'W	1660	NSN	00:25	32	1640-1000	246	not meas.	DU	+	-
1007 43	10.02.	62°30.0'S 57°57.4'W	1660	NSN	01:45	25	1000- 500	192	not meas.	DU	+	-
1008 44	10.02.	62°30.4'S 57°57.4'W	1660	NSN	02:30	15	500- 200	115	not meas.	N	+	-
1009 45	10.02.	62°30.1'S 57°57.4'W	1660	NSN	03:05	10	200- 0	77	not meas.	N	+	-
1010 27	10.02.	62°29.8'S 57°58.6'W	1820	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:45 04:00 04:15 03:45 04:00 04:15	15 15 15 15 15 15	200- 140 140- 80 80- 5 200- 140 140- 80 80- 5	692 679 676 9437 8641 7242	250 300 125 1000 1400 2500	N	+	-
1017 46	10.02.	62°45.8'S 57°38.7'W	432	NSN	07:50	15	420- 200	85	not meas.	N	+	-
1018 47	10.02.	62°45.8'S 57°38.7'W	432	NSN	08:20	10	200- 0	77	not meas.	DA	+	-
1020 28	10.02.	62°46.6'S 57°39.1'W	455	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	09:40 09:50 10:05 09:40 09:50 10:05	10 15 15 10 15 15	200- 140 140- 75 75- 5 200- 140 140- 75 75- 5	460 672 683 5939 8470 7328	200 15 20 100 75 120	DA	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1025 48	10.02.	62°59.6'S 57°19.6'W	470	NSN	13:15	15	460- 200	100	not meas.	D	+	-
1026 49	10.02.	62°59.6'S 57°19.6'W	470	NSN	14:00	10	200- 0	77	not meas.	D	+	-
1028 29	10.02.	62°59.5'S 57°19.9'W	960	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	14:55 15:10 15:25 14:55 15:10 15:25	15 15 15 15 15 15	205- 125 125- 70 70- 10 205- 125 125- 70 70- 10	692 678 685 9539 8665 7352	30 250 10 1800 2000 250	D	+	+
1032 50	10.02.	63°27.5'S 56°41.5'W	1040	NSN	22:00	32	1040- 500	208	not meas.	DU	+	-
1040 51	11.02.	63°27.0'S 56°42.0'W	1050	NSN	02:30	25	1040- 500	208	not meas.	N	+	-
1042 52	11.02.	63°27.0'S 56°42.0'W	887	NSN	04:50	12	500- 200	115	not meas.	N	+	-
1043 53	11.02.	63°27.0'S 56°42.0'W	875	NSN	05:17	10	200- 0	77	not meas.	N	+	-
1044 54	11.02.	63°27.0'S 56°42.0'W	870	NSN	05:50	10	870- 770	39	not meas.	N	+	-
1045 55	11.02.	63°27.0'S 56°42.0'W	960	NSN	07:50	25	950- 500	173	not meas.	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1047 30	11.02.	63°19.7'S 56°50.3'W	255	RMT1-1	11:45	15	200- 140	692	30	D	+	+
				RMT1-2	12:00	25	140- 70	1130	30			
				RMT1-3	12:25	27	70- 0	1250	40			
				RMT8-1	11:45	15	200- 140	9332	40			
				RMT8-2	12:00	25	140- 70	14358	80			
				RMT8-3	12:25	27	70- 0	13397	200			
1050 31	11.02.	63°00.5'S 58°27.7'W	750	RMT1-1	19:00	15	200- 130	686	30	D	+	+
				RMT1-2	19:15	15	130- 50	678	30			
				RMT1-3	19:30	15	50- 5	688	130			
				RMT8-1	19:00	15	200- 130	8571	230			
				RMT8-2	19:15	15	130- 50	8626	200			
				RMT8-3	19:30	15	50- 5	7384	1350			
1052 32	11.02.	63°06.9'S 59°07.9'W	350	RMT1-1	22:10	15	200- 135	689	25	DU	+	+
				RMT1-2	22:25	15	135- 65	672	150			
				RMT1-3	22:40	15	65- 15	680	300			
				RMT8-1	22:10	15	200- 135	8758	120			
				RMT8-2	22:25	15	135- 65	8470	2000			
				RMT8-3	22:40	15	65- 15	7287	3200			
1057 56	12.02	63°18.0'S 59°45.0'W	170	NSN	02:05	15	160- 0	62	not meas.	N	+	-
1058 33	12.02.	63°17.7'S 59°45.2'W	200	RMT1-1	02:37	15	190- 120	692	50	N	+	-
				RMT1-2	02:52	15	120- 55	677	75			
				RMT1-3	03:07	15	55- 10	675	40			
				RMT8-1	02:37	15	190- 120	9332	350			
				RMT8-2	02:52	15	120- 55	8663	700			
				RMT8-3	03:07	15	55- 10	7226	700			
1063 57	12.02.	63°05.0'S 60°29.0'W	670	NSN	07:10	42	670- 0	258	not meas.	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1065 34	12.02.	62°59.9'S 60°20.7'W	660	RMT1-1	09:06	15	205- 160	663	30	DA	+	+
				RMT1-2	09:21	15	160- 85	659	12			
				RMT1-3	09:36	16	85- 5	676	20			
				RMT8-1	09:06	15	205- 160	10663	300			
				RMT8-2	09:21	15	160- 85	8459	150			
				RMT8-3	09:36	16	85- 5	7191	100			
1071 35	12.02.	62°57.6'S 60°37.1'W	113	RMT1-1	13:30	10	135- 120	461	300	D	+	+
				RMT1-2	-	-	-	452	-			
				RMT1-3	-	-	-	451	-			
				RMT8-1	13:30	10	135- 120	6326	3500			
				RMT8-2	13:40	10	120- 95	5751	2100			
				RMT8-3	13:50	10	95- 5	4828	1400			
1073 36	12.02.	62°57.3'S 61°06.2'W	270	RMT1-1	-	-	-	690	-	D	+	+
				RMT1-2	-	-	-	671	-			
				RMT1-3	-	-	-	695	-			
				RMT8-1	17:35	15	200- 135	8879	140			
				RMT8-2	17:50	15	135- 50	8449	150			
				RMT8-3	18:05	15	50- 5	7442	90			
1081 37	12.02.	63°03.6'S 62°12.1'W	853	RMT1-1	23:45	15	200- 120	688	25	DU	+	-
				RMT1-2	00:00	15	120- 70	673	10			
				RMT1-3	00:15	15	70- 0	648	15			
				RMT8-1	23:45	15	200- 120	9871	110			
				RMT8-2	00:00	15	120- 70	8626	50			
				RMT8-3	00:15	15	70- 0	6906	50			
1084 38	13.02.	63°01.6'S 66°29.3'W	3330	RMT1-1	13:45	15	200- 135	688	130	D	+	-
				RMT1-2	14:00	15	135- 75	675	210			
				RMT1-3	14:15	15	75- 10	663	320			
				RMT8-1	13:45	15	200- 135	9871	425			
				RMT8-2	14:00	15	135- 75	8650	400			
				RMT8-3	14:15	15	75- 10	7086	600			

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1088 58	13.02.	62°58.0'S 66°36.0'W	3350	NSN	17:30	15	300- 0	115	not meas.	D	+	-
1091 39	13.02.	63°22.5'S 66°09.6'W	3387	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	21:05 21:20 21:35 21:05 21:20 21:35	15 15 15 15 15 15	210- 145 145- 75 75- 10 210- 145 145- 75 75- 10	686 677 677 10001 8661 7258	80 180 200 900 250 150	D	+	-
1097 40	14.02.	63°45.2'S 65°41.8'W	440	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:35 02:50 03:07 02:35 02:50 03:07	15 17 15 15 17 15	210- 140 140- 40 40- 5 210- 140 140- 40 40- 5	686 769 672 8571 9810 7193	90 160 400 600 750 6000	N	+	+
1103 41	14.02.	64°07.2'S 65°16.6'W	530	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	06:45 07:00 07:15 06:45 07:00 07:15	15 15 16 15 15 16	200- 140 140- 50 50- 15 200- 140 140- 50 50- 15	692 679 730 9168 8647 7831	30 40 75 80 130 580	N	+	-
1108 59	14.02.	64°30.0'S 64°49.0'W	610	NSN	11:35	35	570- 0	219	not meas.	D	+	-
1109 42	14.02.	64°29.9'S 64°49.5'S	608	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	12:27 12:45 12:58 12:27 12:45 12:58	18 13 17 18 13 17	200- 140 140- 70 70- 5 200- 140 140- 70 70- 5	830 588 753 11477 7510 8057	30 20 110 60 50 670	D	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1114 60	14.02.	64°57.0'S 65°11.0'W	620	NSN	16:40	16	300- 0	115	not meas.	D	+	-
1115 43	14.02.	64°57.4'S 65°09.6'W	626	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	17:10 17:25 17:40 17:10 17:25 17:40	15 15 15 15 15 15	200- 140 140- 65 65- 5 200- 140 140- 65 65- 5	692 677 680 9168 8661 7287	30 25 580 850 100 17000	D	+	+
1121 44	14.02.	65°23.8'S 66°09.7'W	399	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	23:00 23:15 23:30 23:00 23:15 23:30	15 15 15 15 15 15	200- 130 130- 65 65- 1 200- 130 130- 65 65- 1	692 674 730 9332 8508 7831	25 60 220 170 170 850	DU	+	+
1124 45	15.02.	65°49.1'S 67°10.6'W	300	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:52 04:07 04:22 03:52 04:07 04:22	15 15 15 15 15 15	200- 140 140- 70 70- 10 200- 140 140- 70 70- 10	692 677 672 9539 8661 7193	30 65 350 280 380 20000	N	+	-
1130 46	15.02.	66°12.7'S 68°14.4'W	355	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	09:43 09:58 10:13 09:43 09:58 10:13	15 15 15 15 15 15	200- 100 100- 60 60- 10 200- 100 100- 60 60- 10	686 679 684 9958 8656 7340	40 150 900 170 6000 35000	DA	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1132 47	15.02.	66°32.6'S 68°28.8'W	390	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	12:55 13:10 13:25 12:55 13:10 13:25	15 15 15 15 15 15	195- 130 130- 70 70- 5 195- 130 130- 70 70- 5	690 675 624 9733 8645 6624	10 30 180 160 120 4000	D	+	-
1135 61	15.02.	66°38.0'S 68°28.0'W	390	NSN	15:20	10	400- 200	77	not meas.	D	+	-
1136 62	15.02.	66°38.0'S 68°29.0'W	380	NSN	16:10	10	200- 0	77	not meas.	D	+	-
1144 48	15.02.	66°08.0'S 68°14.1'W	350	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	23:51 00:10 00:30 23:51 00:10 00:30	19 20 20 19 20 20	320- 260 260- 210 210- 150 320- 260 260- 210 210- 150	866 893 926 10706 11244 9918	200 60 200 2300 400 3000	DU	+	-
1145 63	16.02.	66°10.9'S 68°15.2'W	330	NSN	01:25	10	330- 200	50	not meas.	DU	+	-
1146 64	16.02.	66°10.9'S 68°15.2'W	330	NSN	01:50	10	200- 0	77	not meas.	N	+	-
1149 49	16.02.	66°11.3'S 68°16.8'W	330	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:01 03:16 03:31 03:01 03:16 03:31	15 15 15 15 15 15	200- 140 140- 45 45- 10 200- 140 140- 45 45- 10	690 674 694 8879 8508 7439	60 220 1250 500 730 40000	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1154 50	16.02.	66°12.1'S 68°12.2'W	370	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	12:19 12:34 12:49 12:19 12:34 12:49	15 15 15 15 15 15	200- 140 140- 40 40- 10 200- 140 140- 40 40- 10	688 678 664 9871 8664 7105	40 40 320 115 160 17000	D	+	-
1156 65	16.02.	66°14.1'S 68°13.4'W	425	NSN	13:50	15	415- 200	83	not meas.	D	+	-
1157 66	16.02.	66°14.1'S 68°13.4'W	425	NSN	14:15	15	200- 0	77	not meas.	D	+	-
1160 51	16.02.	66°13.9'S 68°11.9'W	440	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	16:28 16:48 17:08 16:28 16:48 17:08	20 20 20 20 20 20	410- 310 310- 240 240- 200 410- 310 310- 240 240- 200	917 903 911 13176 11549 9770	170 250 25 350 1400 210	D	+	-
1167 52	17.02.	66°13.6'S 68°09.6'W	448	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	00:50 01:05 01:20 00:50 01:05 01:20	15 15 15 15 15 15	200- 140 140- 65 65- 5 200- 140 140- 65 65- 5	692 679 677 9437 8647 7258	60 70 90 150 325 70	DU	+	+
1168 53	17.02.	66°11.2'S 68°03.4'W	413	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:19 02:39 02:59 02:19 02:39 02:59	20 20 20 20 20 20	395- 305 305- 255 255- 200 395- 305 305- 255 255- 200	920 905 903 11879 11517 9672	150 120 50 280 180 125	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1170 54	17.02.	64°55.7'S 64°23.9'W	1345	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	22:35 22:50 23:05 22:35 22:50 23:05	15 15 15 15 15 15	200- 140 140- 60 60- 5 200- 140 140- 60 60- 5	688 674 690 8697 8508 7401	20 30 5 75 70 35	DU	+	+
1173 67	18.02.	64°51.6'S 63°56.0'W	400	NSN	09:10	17	300- 0	115	not meas.	DA	+	-
1174 55	18.02.	64°51.8'S 63°55.2'W	400	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	09:54 10:09 10:24 09:54 10:09 10:24	15 15 26 15 15 26	200- 140 140- 70 70- 0 200- 140 140- 70 70- 0	691 678 1185 9055 8664 12704	60 40 40 280 130 320	DA	+	+
1179 68	18.02.	64°34.0'S 62°35.0'W	790	NSN	15:40	10	200- 0	77	not meas.	D	+	-
1180 56	18.02.	64°33.6'S 62°34.3'W	790	RMT1-1 RMT8-1	16:00 16:00	57 57	195- 0 195- 0	2764 35990	330 2300	D	+	+
1183 57	18.02.	64°10.1'S 62°51.7'W	632	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	21:40 21:55 22:10 21:40 21:55 22:10	15 15 15 15 15 15	200- 135 135- 80 80- 1 200- 135 135- 80 80- 1	691 678 680 8997 8617 7287	30 60 200 140 480 3000	D	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1187 58	19.02.	63°52.9'S 61°34.3'W	1110	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	05:35 05:50 06:05 05:35 05:50 06:05	15 15 16 15 15 16	200- 150 150- 90 90- 15 200- 150 150- 90 90- 15	692 676 732 9278 8571 7854	50 50 200 1200 500 750	N	+	+
1194 59	19.02.	63°31.5'S 61°04.5'W	585	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	11:43 11:58 12:13 11:43 11:58 12:13	15 15 15 15 15 15	195- 145 145- 70 70- 10 195- 145 145- 70 70- 10	691 675 622 9590 8650 6602	20 30 95 260 230 1700	D	+	-
1200 69	19.02.	63°13.0'S 60°36.0'W	595	NSN	15:49	9	200- 0	77	not meas.	D	+	-
1201 60	19.02.	63°13.0'S 60°35.4'W	590	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	16:30 16:45 17:00 16:30 16:45 17:00	15 15 15 15 15 15	200- 140 140- 70 70- 10 200- 140 140- 70 70- 10	653 669 651 10816 8583 6919	10 20 35 130 60 190	D	+	+
1207 61	19.02.	62°58.8'S 60°35.4'W	114	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	21:42 21:55 22:06 21:42 21:55 22:06	13 11 13 13 11 13	120- 90 90- 60 60- 5 120- 90 90- 60 60- 5	598 497 584 7656 6354 6256	300 250 240 2200 2000 1100	D	+	+
1211 70	20.02.	62°43.0'S 59°50.0'W	1150	NSN	02:15	9	200- 0	77	not meas.	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1213 62	20.02.	62°42.3'S 59°48.3'W	1150	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:46 04:01 04:16 03:46 04:01 04:16	15 15 15 15 15 15	205- 140 140- 65 65- 5 205- 140 140- 65 65- 5	674 660 694 8037 8239 7421	110 70 45 340 250 200	N	+	-
1218 63	20.02.	62°28.7'S 59°01.3'W	807	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	08:22 08:37 08:52 08:22 08:37 08:52	15 15 15 15 15 15	200- 140 140- 65 65- 5 200- 140 140- 65 65- 5	692 674 685 9539 8525 7352	60 40 15 100 50 45	DA	+	-
1224 71	22.02.	61°57.8'S 56°25.8'W	1580	NSN	23:30	30	1000- 500	192	not meas.	DU	+	+
1225 72	22.02.	61°57.8'S 56°25.8'W	1580	NSN	01:00	17	500- 200	115	not meas.	N	+	-
1226 73	22.02.	61°57.8'S 56°25.8'W	1580	NSN	01:40	11	200- 0	77	not meas.	N	+	-
1227 64	22.02.	61°56.8'S 56°30.6'W	1630	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:30 03:00 03:32 02:30 03:00 03:32	30 32 30 30 32 30	690- 510 510- 320 320- 195 690- 510 510- 320 320- 195	1362 1426 1316 20404 18299 14056	100 80 100 700 400 550	N	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1234 65	22.02.	62°17.6'S 56°43.2'W	1235	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	09:55 10:10 10:25 09:55 10:10 10:25	15 15 18 15 15 18	200- 145 145- 80 80- 0 200- 145 145- 80 80- 0	689 679 804 9780 8652 8605	125 170 65 600 530 220	D	+	+
1238 74	22.02.	62°43.0'S 56°49.0'W	230	NSN	14:30	10	200- 0	77	not meas.	D	+	-
1239 66	22.02.	62°42.9'S 56°49.2'W	200	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	14:45 15:00 15:15 14:45 15:00 15:15	15 15 16 15 15 16	175- 145 145- 130 130- 5 175- 145 145- 130 130- 5	687 677 712 9915 8557 7617	20 50 180 60 60 3500	D	+	+
1242 75	22.02.	63°05.4'S 51°07.1'W	500	NSN	20:00	8	100- 0	39	not meas.	D	-	-
1246 76	23.02.	63°26.0'S 56°44.0'W	780	NSN	01:00	15	780- 500	108	not meas.	DU	-	-
1247 77	23.02.	63°26.0'S 56°44.0'W	780	NSN	01:50	15	500- 200	115	not meas.	N	+	-
1248 78	23.02.	63°27.0'S 56°45.0'W	780	NSN	02:25	10	200- 0	77	not meas.	N	+	-
1250 67	23.02.	63°25.2'S 56°45.4'W	535	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	03:30 03:45 04:00 03:30 03:45 04:00	15 15 15 15 15 15	200- 145 145- 70 70- 10 200- 145 145- 70 70- 10	692 673 688 9112 8490 7384	135 240 95 2000 2500 1000	N	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1257 68	23.02.	62°37.4'S 55°14.9'W	137	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	18:34 18:49 19:04 18:34 18:49 19:04	15 15 15 15 15 15	120- 105 105- 50 50- 0 120- 105 105- 50 50- 0	690 670 690 8879 8427 7401	30 15 200 60 230 1800	D	+	+
1269 69	24.02.	63°58.4'S 49°58.1'W	3000	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	22:15 22:40 23:05 22:15 22:40 23:05	25 25 25 25 25 25	735- 600 600- 410 410- 245 735- 600 600- 410 410- 245	1154 1130 1071 15446 14348 11405	200 170 90 470 550 550	DU	+	+
1271 79	25.02.	63°54.0'S 49°52.0'W	3060	NSN	00:50	22	400- 0	154	not meas.	DU	+	-
1272 80	25.02.	63°54.0'S 49°52.0'W	3060	NSN	01:20	10	200- 0	77	not meas.	N	-	-
1274 70	25.02.	63°53.5'S 49°50.6'W	3075	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:55 03:10 03:25 02:55 03:10 03:25	15 15 15 15 15 15	205- 135 135- 70 70- 5 205- 135 135- 70 70- 5	689 679 693 9826 8656 7436	120 150 70 2000 900 1200	N	+	+
1278 81	25.02.	63°54.0'S 49°52.0'W	3000	NSN	04:45	15	500- 200	115	not meas.	N	-	-
1279 82	25.02.	63°54.0'S 49°52.0'W	3060	NSN	05:40	30	1000- 500	192	not meas.	N	-	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1280 83	25.02.	63°53.0'S 49°52.0'W	3060	NSN	06:40	10	200- 0	77	not meas.	N	-	-
1283 71	25.02.	63°54.4'S 49°53.3'W	3080	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	14:52 15:05 15:20 14:52 15:05 15:20	13 15 13 13 15 13	180- 120 120- 70 70- 0 180- 120 120- 70 70- 0	595 679 574 8636 8660 6134	55 50 60 200 140 800	D	+	+
1290 72	27.02.	62°07.9'S 49°02.2'W	3330	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	02:05 02:20 02:35 02:05 02:20 02:35	15 15 15 15 15 15	200- 115 115- 80 80- 5 200- 115 115- 80 80- 5	675 674 679 10383 8633 7273	50 250 1100 2000 3000 13000	N	+	+
1294 84	27.02.	60°33.0'S 48°05.9'W	1953	NSN	14:25	10	200- 0	77	not meas.	D	+	-
1295 85	27.02.	60°33.0'S 48°05.9'W	1953	NSN	14:50	20	500- 200	115	not meas.	D	+	-
1296 86	27.02.	60°33.0'S 48°05.9'W	1953	NSN	15:25	26	1000- 500	192	not meas.	D	+	-
1299 73	27.02.	60°33.2'S 48°03.9'W	1880	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	18:07 18:22 18:37 18:07 18:22 18:37	15 15 15 15 15 15	200- 140 140- 75 75- 10 200- 140 140- 75 75- 10	692 678 692 9278 8607 7422	25 50 320 70 200 1800	D	+	+

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1300 74	27.02.	60°31.7'S 48°06.4'W	1348	RMT1-1	20:27	83	1300- 815	3761	250	D	+	+
				RMT1-2	21:50	37	815- 500	1669	600			
				RMT1-3	22:27	45	500- 200	1909	400			
				RMT8-1	20:27	83	1300- 815	56688	4200			
				RMT8-2	21:50	37	815- 500	21165	5000			
				RMT8-3	22:27	45	500- 200	20313	1800			
1305 75	28.02.	60°28.5'S 46°39.7'W	130	RMT1-1	07:55	15	130- 110	687	280	DA	+	-
				RMT1-2	08:10	15	110- 60	652	130			
				RMT1-3	08:25	15	60- 5	714	15			
				RMT8-1	07:55	15	130- 110	8634	2200			
				RMT8-2	08:10	15	110- 60	8103	800			
				RMT8-3	08:25	15	60- 5	7655	275			
1311 87	01.03.	58°00.7'S 43°06.0'W	2880	NSN	07:50	20	1000- 500	192	not meas.	N	+	-
1312 88	01.03.	58°00.8'S 43°07.1'W	2880	NSN	08:45	15	500- 200	115	not meas.	DA	-	-
1313 89	01.03.	58°00.8'S 43°06.9'W	2880	NSN	09:15	10	200- 0	77	not meas.	DA	+	-
1314 90	01.03.	58°00.8'S 43°06.9'W	2880	NSN	09:45	10	200- 0	77	not meas.	DA	-	-
1315 91	01.03.	58°00.8'S 40°06.9'W	2880	NSN	10:35	85	2850-1000	712	not meas.	D	+	-

Stat. Haul	Date 1982	Position	Water depth (m)	Net	start (GMT)	Haul dur. (min)	depth (m)	Filt. Vol. (m ³)	Catch Vol. (ml)	Day time	STD	Comment
1320 76	02.03.	55°18.5'S 39°23.6'W	3150	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	16:00 16:15 16:30 16:00 16:15 16:30	15 15 15 15 15 15	200- 140 140- 80 80- 10 200- 140 140- 80 80- 10	655 679 691 9981 8662 7416	40 140 200 100 100 220	D	+	-
1322 92	02.03.	54°52.4'S 38°57.1'W	380	NSN	20:00	25	300- 0	115	not meas.	D	-	-
1325 77	02.03.	54°54.0'S 38°55.9'W	3813	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	22:35 22:50 23:05 22:35 22:50 23:05	15 15 15 15 15 15	200- 140 140- 70 70- 10 200- 140 140- 70 70- 10	682 678 664 10163 8664 7105	145 135 350 300 240 400	DU	+	+
1328 93	03.03.	54°34.1'S 38°44.0'W	218	NSN	01:20	11	200- 0	77	not meas.	N	+	-
1331 78	03.03.	54°25.8'S 38°31.8'W	218	RMT1-1 RMT1-2 RMT1-3 RMT8-1 RMT8-2 RMT8-3	06:05 06:20 06:35 06:05 06:20 06:35	15 15 15 15 15 15	200- 140 140- 70 70- 5 200- 140 140- 70 70- 5	692 679 672 9437 8660 7193	350 265 300 2000 1100 320	N	+	-

Comments to stations

Stat/Haul

848/ 2 about 15 Soviet krill trawlers operating in the vicinity of the station
857/ 3 see 848/ 2
865/ 4 during the haul in surface water layers marks of heavy krill concentrations are shown on the echo sounder
889/ 8 at the end of the haul strong marks on the krill echo sounder in ~30 m water depth, penguins near the ship
896/ 9 during the haul krill echo sounder records strong signals in 10-60 m water depth
931/11 strong phytoplankton accumulations in RMT1 liners
938/12 the echo sounder shows scattered signals in ~25 m water depth
947/13 > 30 cape pigeons behind the ship
954/14 strong marks on the echo sounder in 50-60 m and in 100-115 m water depth
966/17 error in release transmission, RMT1-1 not opened, no RMT1-1 sample
969/19 large numbers of krill exuvias in the RMT8-2 sample
982/23 flowmeter has been changed before the haul, during the haul 2 humpback whales sighted near the ship
986/24 krill echo sounder records signals just below surface simultaneous ring trawl sample yields large numbers of Themisto gaudichaudii (amphipods)
1020/28 one large medusa from RMT1-1 catch not preserved
1028/29 echo sounder records short marks of krill concentrations in ~ 35 m water depth
1047/30 no quantitative RMT1 samples because of high phytoplankton accumulations in liners
trawling complicated by fog and bad ice conditions
1050/31 echo sounder shows signals in ~50 m water depth
1052/32 see 1050/31
1065/34 fog makes trawling very difficult
echo sounder shows weak marks of krill concentrations in ~110 m and ~200 m water depth
1071/35 RMT1-2 and RMT1-3 nets not released because of high phytoplankton concentrations in surface water layers
1073/36 all RMT1 samples rejected, because too many previously caught specimens appear in the samples
1097/40 no quantitative RMT1 samples - phytoplankton accumulations cause "clogging" in RMT1 liners
1109/42 after the haul whales sighted near the vessel
1115/43 icebergs in ~3 nm distance
1121/44 haul carried out near shelf ice edge (in 3-4 nm distance)

Stat/Haul

1167/52 large numbers of seabirds near the ship feeding on krill
echo sounder shows several short but heavy krill concentrations in 5 to 200 m water depth

1170/54 "growlers" around the ship

1174/55 RMT1-3 and RMT8-3 recovered opened, error in net monitor prevents net closing
several icebergs near the ship

1180/56 oblique haul with only one net pair (RMT1-1 and RMT8-1), other nets not opened - error in transmission

1183/57 krill echo sounder shows strong marks in the upper 50 m

1187/58 simultaneous ring trawl yields ~80 kg krill during 5 minutes towing time

1201/60 krill echo sounder with weak marks in surface water layers

1207/61 phytoplankton accumulations in RMT1 liners

1224/72 poor catch, net already closed during veering

1234/65 RMT1-3 and RMT8-3 opened after several trials, transducer exchanged during haul

1239/66 icebergs in ~5 nm distance
krill exuvias in RMT1-1 sample

1250/67 difficult ice conditions
krill echo sounder shows heavy concentrations in 0-50 m water depth

1257/68 see 1250/67

1269/69 see 1250/67

1274/70 simultaneous ring trawl sample yields ~10 kg krill in 1.5 minutes towing time

1283/71 difficult ice conditions cause interruption of haul shortly after RMT1-3 and RMT8-3 have been released

1290/72 at the end of the haul krill echo sounder records strong concentrations in surface water

1299/73 ample phytoplankton in the samples

1300/74 specimens of upper water layers found in RMT1-1 and RMT8-1 samples since nets not totally closed when heaved

1325/77 large quantities of phytoplankton in the samples

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